

Rotating Torque Gauge

HTGS-RT-5N/HTGA-RT-5N

- Enables measurement of Torque during continuous measuring shaft rotation
- Achieves high repeatability with fast sampling for peak and continuous data
- Data management with included software and analysis with optional graphing software





HTGS-RT-5N/HTGA-RT-5N
(Next series *1)



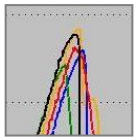
Testing image

*1 Next Series is a generic term for IMADA force gauges and testing devices with upgraded functions and performances. (See page 2 for details.)

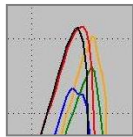
Features		
Enables measurement of torque during continuous rotation	Indicator Ideal for both Handheld and Integration	Indicator and Sensor Combined Ready-to-Measure
<ul style="list-style-type: none">- Supports max. rotation speed of 4000rpm.- Suitable for torque measurement with over 360-degree rotation: - e.g., rollers and gear systems. 	<ul style="list-style-type: none">- Easy to install using threads (M4) on the back of the indicator- Also ideal for handheld use with grips  <p>mounting threads</p>	<ul style="list-style-type: none">- Load cell and indicator adjusted and calibrated as a set, ready to measure immediately after purchase- Supplied with inspection certificate (calibration certificate and traceability chart available at a charge)

[Main Features]

High repeatability with fast sampling for peak and continuous data



2000Hz



100Hz

Results: less variation in the left (2000Hz)

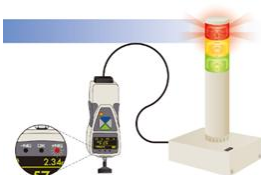
High sampling rate of 2000Hz contributes to accurate results, capturing small changes and accurate peak values by following rapid changes of torque. Optional graph drawing software (page 6) enables plotting of the measured data at sampling speed of 2000 times/sec. It also visualizes minute torque changes, which is ideal for analysis and evaluation.

Clear OLED display with a variety of display mode



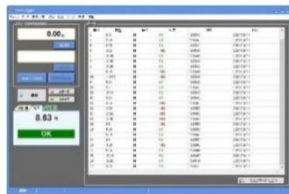
The OLED display provides excellent contrast and high visibility, which reduces errors in reading measurement results. The display screen can be divided into three sections, allowing customizing the display contents, such as calendar, bar graph and comparator setting values on the top and bottom. In addition, it has various display capabilities such as a multi-language setting menu and overload warning display.

Enhanced measurement by external output and functions



With a wide range of data output options such as USB, wireless, serial communication, and analog output, it enhances features of measurement, including data management on a PC and interlocking with various devices. Examples include controlling external equipment (e.g. stopping the machine at a specified torque value) and creating an inspection device linked to the production process to improve the efficiency of the inspection process.

Easy data acquisition and management with the included software



USB cable and software Force Logger are included and therefore data management is easily performed together with measurement. It also allows configuring of the indicator as well as changing measurement conditions. (Refer to page 5 for the system requirements.) Optional graphing software Force Recorder series are also available to analyze the results.

Improved expandability with Next Series

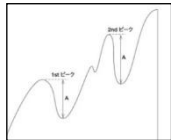


IMADA Connected

(<https://www.imada-connected.com/>)

Next Series is a generic term for IMADA measurement devices with upgraded functions and performances with modifications. As well as the increased measurement stability achieved from further noise reduction to the measurement circuit, firmware update becomes available on the user support site, IMADA Connected. On the website, related data such as software and instruction manuals can also be downloaded.

[Additional Functions of HTGA-RT-5N]

Angle Output Function	USB Flash Drive for Data Storage	1st and 2nd Peak
By connecting with a customized angle meter, the angle value can be measured and displayed at the top. It is also possible to output the angle data to a PC by using the dedicated software.	Continuous and single data (with button operation) can be saved in USB flash drive (sold separately) in CSV format. Data acquisition is possible even without PC.	 <p>1st and 2nd peak value can be measured (image of 1st/2nd peak as above).</p>

[Specifications]

Model	HTGS-RT-5N	HTGA-RT-5N
Features	Standard model with various functions	Advanced model with additional functions of HTGS-RT-5N such as input/output angles and saving to USB flash drive, etc.
Capacity	5N-m	
Accuracy	±1.0%F.S.±1digit	
Unit	N-m, N-cm, kgf-m, kgf-cm, lbf-in, ozf-in (*1)	
Display	4-digit Organic EL	
Resolution	0.001N-m (0.1N-cm)	
Display Update	16/sec	
Sampling Rate	2000 data/sec at maximum (*2)	
Battery	Nickel-hydrogen battery - Operating time: 6.5 hours (2 hours full charge) (*3)	
Overload Capacity (*4)	Approx.150%	
Max. Rotation Speed	4000rpm	
Expected Durability (Load Cell)	Max. of approx. 50 million rotations	
Angle Range	-	0.1 to 9999.9° (*5)
Operating Environment	Temperature: 0 to +40 degree Celsius, Humidity: 20 to 80%RH	
Cable	Approx. 3m	
Weight	Indicator: 490g Load Cell: 450g	
Dimensions	See [Dimensions]	
Functions	⇩ Customized display (header and footer), Peak hold (clockwise and counter-clockwise), Internal 1000 points data memory, Comparator (judgment of OK or NG), Reversible display, Sign inversion, Zero clear timer, +NG alarm, Off timer (auto power off), Dumping, Time display, setting lock	
	-	1st/2nd peak, Angle detection at torque peak value (*5), Angle zero reset at selected torque (*5)
Output	USB, RS232C, ±2VDC analog output (D/A), High Low Setpoints 3 steps (-NG/OK/+NG), Overload alarm	
	-	High Low Output 2 steps (output of large or small judgment), USB flash drive, Angle(displacement) (*5)
Overload Warning	Approx.110%F.S. (Warning message and alarm)	
External Connecting Switch	Power ON/OFF, send and hold, zero reset, peak and real-time switchable	
Accessories	AC adapter, inspection certificate, CD driver (including data logging software), USB cable, carrying case, L wrench,	
	—	USB flash drive adapter (*6)

*1 These are the specifications for international model. Note that available units are different from Japanese domestic model.

*2 The recording rate to USB flash drive is selectable among 1, 50 and 100/sec.

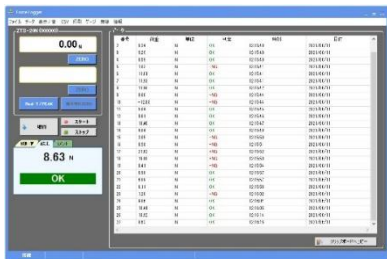
*3 The battery is consumed faster when connected to USB flash drive or an angle meter.

*4 Measurement values exceeding the capacity are not subject to calibration. The load over Overload Capacity applied may cause failure. When it occurs, stop the operation immediately and proceed with the accuracy check for measurement safety.

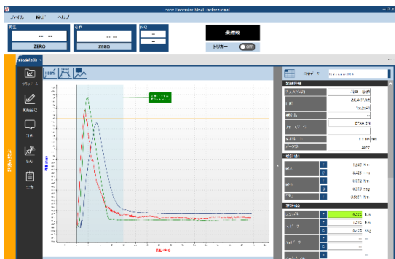
*5 Angle meter is necessary to activate these functions.

*6 USB flash drive is not included.

[Included Software]

Data Acquisition Software: Force Logger	
	<p>Main Functions</p> <ul style="list-style-type: none"> - Easy importing of the measurement data - Display acquired data value statistics: maximum/minimum/average values - Data saved in CSV format - Continuous data acquisition up to 10 times per second - Force-gauge function settings <p>Operating Environment</p> <ul style="list-style-type: none"> - OS: 8.1/10/11 - Hardware: CPU 1GHz or more recommended Memory 2GB or more recommended Hard disk 10GB (Data storage area) or more - Platform: .NET Framework4.8 or later



[Related Software]

Downloadable Graphing Software: Force Recorder Next Series *1	
	<ul style="list-style-type: none"> - High sampling rate of max. 2000Hz enables accurate graphing. - Test condition preset functions increase efficiency of recording and analyzing measurement results. - Various data editing functions such as up to 10-graph overlaying enable analyzing measurement result. - Adding Images and Comments functions are useful for recording the details of measurement. - The Print Command allows users to output of measurement data as PDF/Word, Excel, and images and drawing up reports easily. <p>CD version software Force Recorder Standard is also available. Some specifications such as operating environment is different from Downloadable version and CD version. Please refer to the individual specification sheets for details.</p>



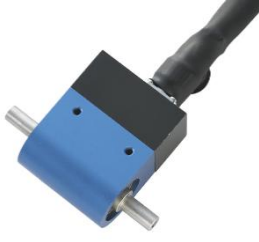






*1 To use Force Recorder Next Series, user & product registration on IMADA Connected and downloading the software are required. Only Next Series products (For HTGS-RT-5N and HTGA-RT-5N firmware versions 5.00 or later) are available for the product registration. An Internet connection is required in process of user & product registration and downloading the software.

Optional Cables		
Analog Cable (3m)	CB-108	To connect to a multi meter, oscilloscope
RS232C Cable (3m)	CB-208	To connect to a PC having its own system
Contact point cable (3m)	CB-808	To connect to external equipment such as PLC
Open end cable (3m)	CB-908	Output cable for loose wire 37 pin (useful for connection with unique equipment)
Cable with Terminal Block	CTB-A	To connect to external equipment such as PLC

[Peripheral Devices]

Handle (Customized Product)	Angle Meter (Customized Product)
	
<p>A test stand with a manually rotating handle for the torque shaft rotation. The height is adjustable according to the sample.</p>	<p>A displacement sensor can be connected to HTGA-RT-5N to measure the angle, by installing it between the drive source and the load cell.</p>

[Related Products]

Wireless Data Transmit System WL01 Series	Battery for Replacement BP-308	Rotating Torque Load Cell eRT-5N
		
Transmits and receives measured data from remote locations	Rechargeable battery pack for replacement	Rotating torque Load Cell in the eZ-Connect series.
Desktop Amplifier eFA Plus2	Sensor Interchangeable Amplifier eZT	Quad Sensor Measuring Amplifier QSMA-400 (*1)
		
[eZ-Connect series] Ideal for integration into facilities due to the box-shaped design	[eZ-Connect series] Ideal for handheld use due to the easy to grip shape	[eZ-Connect series] Up to 4 different load cells can be connected Simultaneously
Handheld Digital Torque Gauge HTGS/HTGA series	Built-in Torque Gauge HTGS/HTGA-TFX series	Screw Cap Torque Tester DTXS/DTXA series
		
Hand-held type torque gauge for measuring torque of rotary switches, tightening/loosening bolts, etc.	Torque Gauge for measuring torque, integrating the loadcell to equipment by fixing it with its equipped holes on both sides	Desktop type screw cap torque tester for measuring opening torque of screw caps such as PET bottles

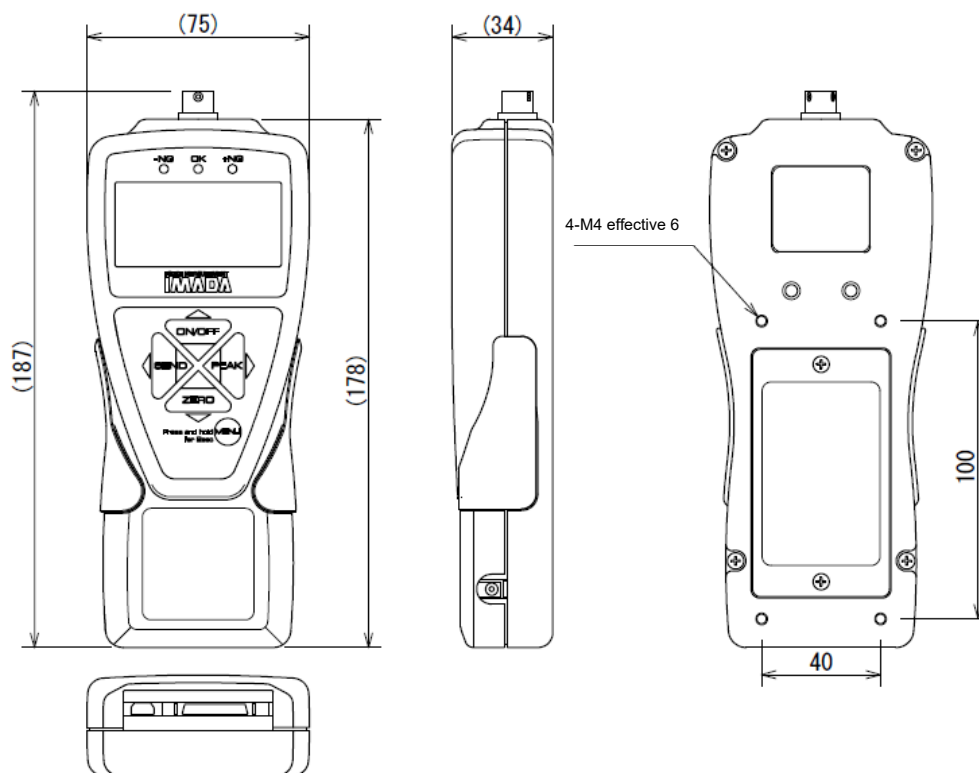
*1 To use QSMA-400, the downloadable graphing software Quad Graph Drawer is required. Refer to the specification sheet of QSMA-400 for details.

[Other Custom-made Solutions and Support]

To meet diverse torque measurement needs, we propose the optimal solution according to the customer's measurement conditions and samples. Custom-made solutions are flexibly offered to serve specific needs, such as integration into equipment, or designing a jig to hold a specific sample. Please feel free to contact us.

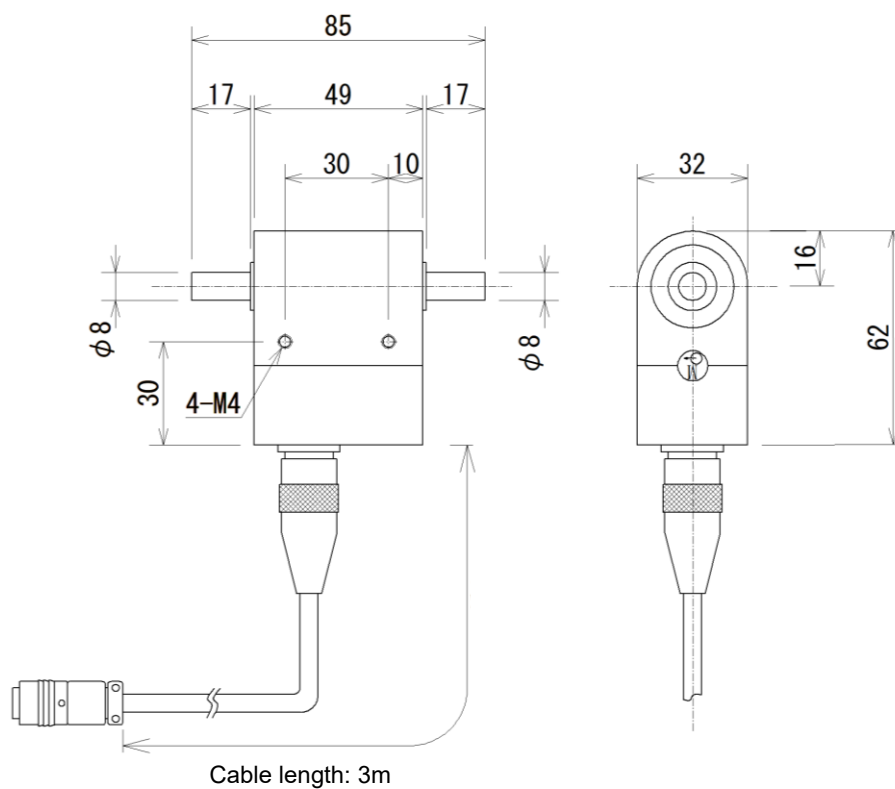
[Dimensions]

Indicator



Unit: mm

Load Cell



Unit: mm

[Cautions]

- Information in this document is subject to change without prior notice.
- This document introduces product descriptions and handling precautions, and it does not guarantee the features or safety mentioned therein.
- This product is designed for force measurement purpose only.
- Do not copy and use this content without authorization.
- Do not apply force more than its capacity or from incorrect direction to the measuring shaft.
- Do not use this product in the environments including fierce temperature changes, high temperature, high humidity, near water, dusty place.

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